

(Model.)

J. HERRON & R. T. WRAY.

DOOR FOR COKE OVENS.

No. 300,256.

Patented June 10, 1884.

Fig. 1.

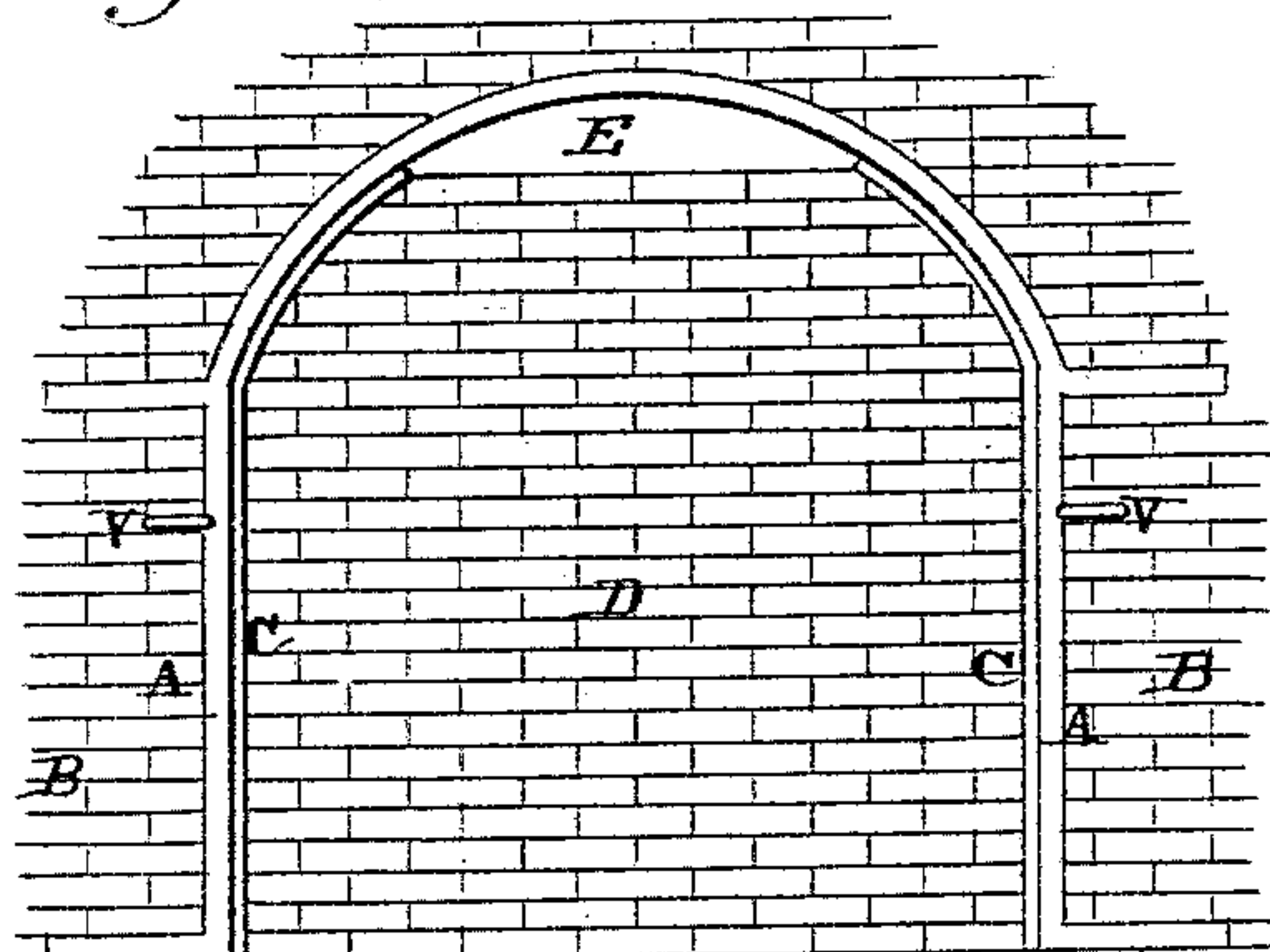


Fig. 2.

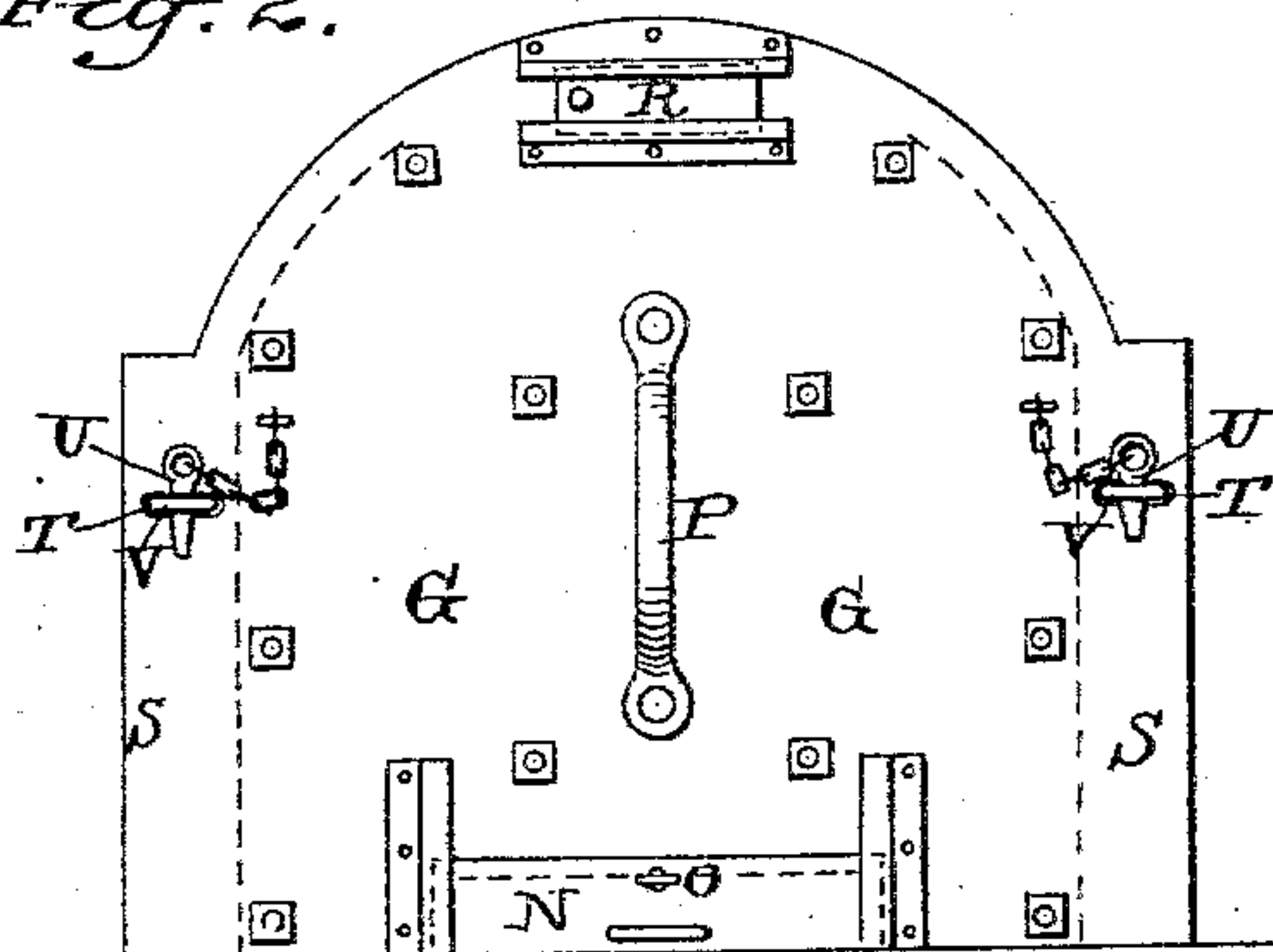


Fig. 3.

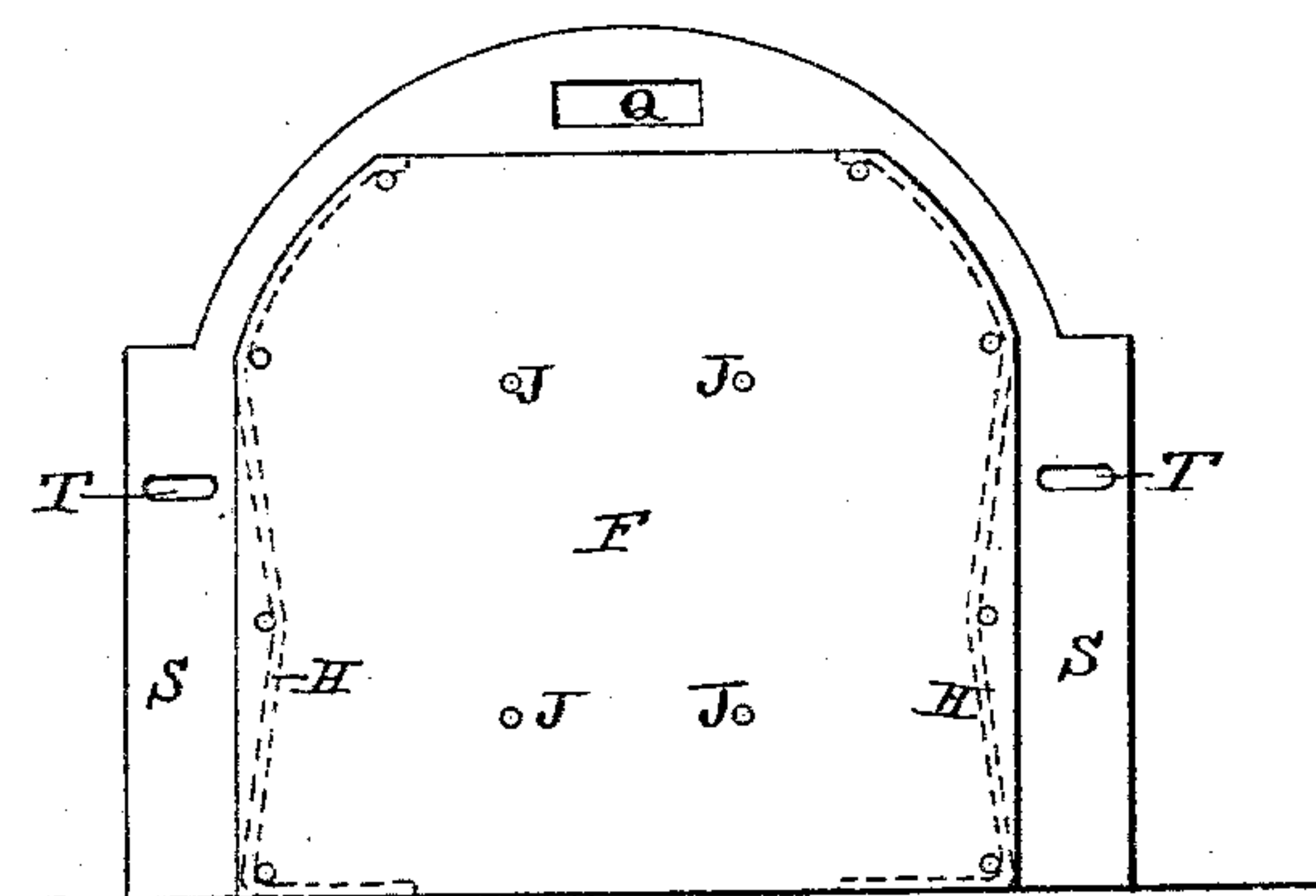
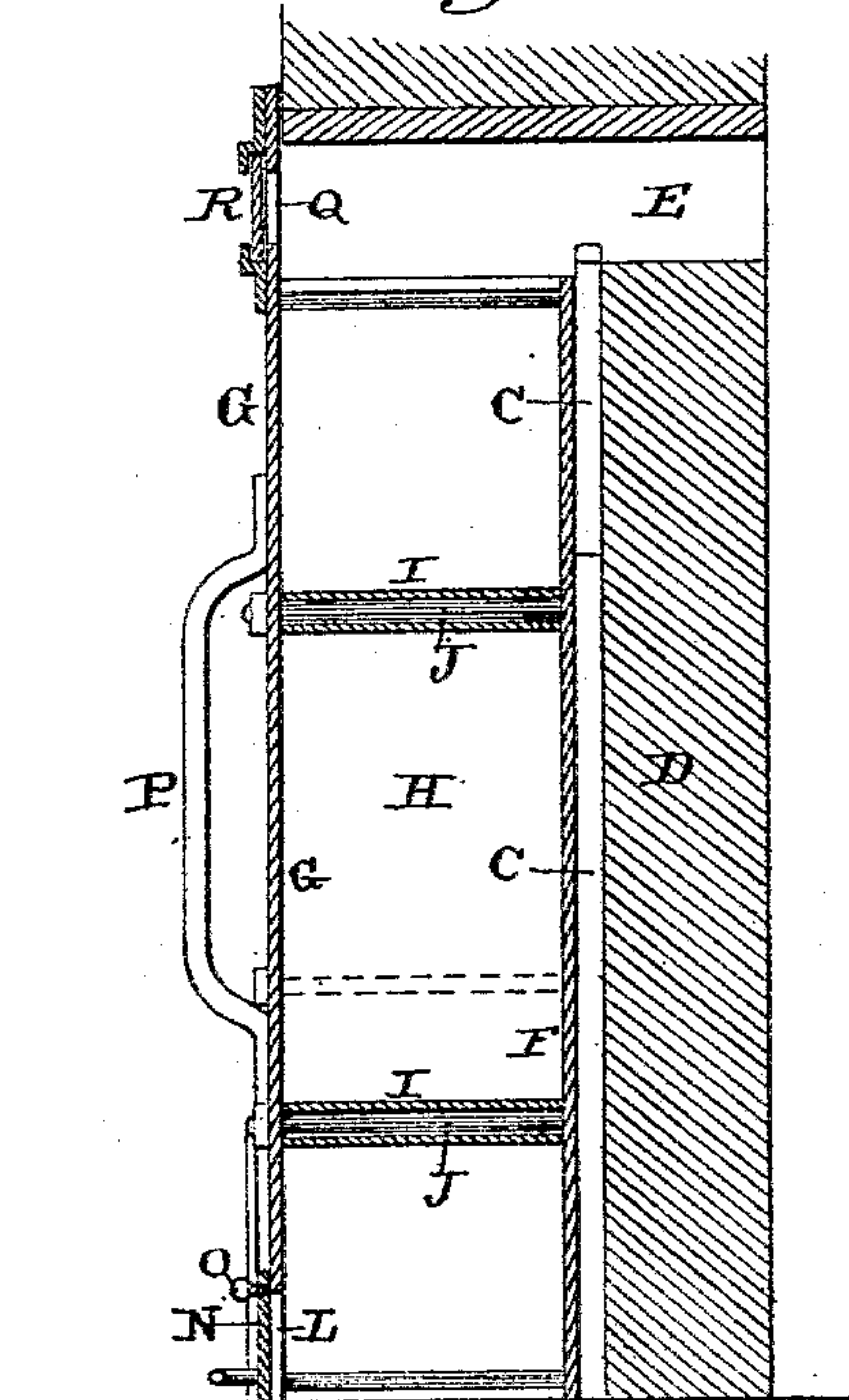


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN HERRON AND ROBERT T. WRAY, OF DUNBAR, PENNSYLVANIA.

DOOR FOR COKE-OVENS.

SPECIFICATION forming part of Letters Patent No. 300,256, dated June 10, 1884.

Application filed December 28, 1883. (Model.)

To all whom it may concern:

Be it known that we, JOHN HERRON and ROBERT T. WRAY, of Dunbar, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Doors for Coke-Ovens; and we do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 represents an improved door-frame, with brick or tile inclosed ready for door. Fig. 2 represents a front view of our double-plate air-heating door. Fig. 3 represents a back view of door. Fig. 4 represents a side view of door.

Similar letters of reference indicate corresponding parts in all the figures.

A represents a metallic door-frame, which is placed in the brick-work B, and which has a rib or flange, C, formed upon its inner edge, which rib extends up the side of the frame and a suitable distance under the top of the arch. In the door of the oven is built a suitable brick or tile work, D, which extends up nearly to the top of the door, so that only a small air-passage, E, is left between the top of the brick-work and the frame A. The rib C, which is formed inside of the frame, comes just outside of this brick-work D, as shown in Fig. 4, and serves as a stop against which the door is placed.

The oven-door consists of an inner plate, F, and an outer plate, G, and these two plates are separated a suitable distance apart both by the side strips, H, (shown in dotted lines in Fig. 3,) and by the sleeves I, which inclose the rods J. These rods may be screw-threaded, or constructed in any suitable manner, and serve to clamp the two plates F G rigidly together. The outer plate, H, extends up above the top of the frame-work A, as shown in Fig. 4, while the inner one, F, extends only about as high as the brick-work D, so as not to interfere with the openings E in the oven. These two plates F G form a hollow door, up through which the air can be made to pass, for the purpose of becoming heated to a greater or less degree before it passes into the oven through

the openings E. By means of the side strips, H, which extend up as high as the top of the inner plate, F, the air is prevented from escaping at the sides in its passage from the opening L at the bottom of the plate G up through the door. Over this opening L is placed an adjustable slide, N, by means of which the passage of the air can be regulated at will, and which door can be held in any desired position by means of the set-screw O. Through the top of the outer plate, G, to which is secured either a rigid or removable handle, P, is formed a peep-hole, Q, so that the interior of the oven can be inspected at any time, and which opening Q is covered by the slide R. The outer plate, G, of the door is made wider than the frame-work A, and through the projecting flanges S of the door are made suitable openings, T, through which the staples V, which are sunk into the frame-work, are made to pass. After the door has been placed in position, a suitable pin or other device, U, is passed through each staple, for the purpose of holding the door rigidly in position.

By the construction above described it will be seen that the door is only forced inside of the frame A as far as the rib C without coming in contact with the brick-work D, and hence it is never exposed to the action of the fire. As all of the air which is admitted to the oven can be made to pass through this hollow door, it will readily be seen that the air becomes heated to a greater or less degree, and hence does not cool off the oven to the same extent that it otherwise would if the air were admitted directly into the oven without first being heated.

We are aware that it is not new to combine a door-frame adapted to receive refractory material and provided with ribs in combination with a solid door or holding-plate, for this is shown in a patent heretofore granted to us, and upon which this invention is intended as an improvement.

Having thus described our invention, we claim—

1. The combination of the frame A and the brick-work D, built therein, with a double door, which is placed inside of the door-frame, and which is provided with means for regulating the passage of air up through the door, and a peep-hole, substantially as shown.

2. The combination of the metallic frame A,

provided with the rib C, the brick-work D, and a double door which is placed inside of the frame, and up through which the air is made to pass, substantially as described.

- 5 3. A door for coke-ovens, consisting of the inner and outer plates, F G, the side strips, H, and bolts J, the inner plate, F, being of a less height than the outer one, in combination with the brick-work D and passage E, substantially
10 as set forth.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

JOHN HERRON.
ROBT. T. WRAY.

Witnesses:

T. P. WALKER,
BEN G. WILLIAMS.